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**Remarks****I. CLAIM REJECTIONS UNDER 35 USC § 112, SECOND PARAGRAPH**

Claims 21 and 22 are rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The official action states that the dependency of claim 21 is incorrect since claim 15 is an apparatus claim. The official action notes that same problem of claim 21 appears in claim 22.

The applicants corrected the dependencies of Claims 21 and 22 in a Preliminary Amendment filed on 11 June 2001. The Electronic Filewrapper of the application in PAIR includes this Preliminary Amendment. Accordingly, the applicants respectfully submit that the Claims as currently amended meet the requirements of 35 USC § 112, second paragraph.

**II. ALLOWABLE CLAIMS**

The applicants note with appreciation the Examiner's indication that claims 5, 7-9, 13, 16, 25 and 27 would be allowable if rewritten in independent form including the limitations of the base claim and any intervening claims. The applicants have not rewritten claims 5, 7-9, 13, 16, 25 and 27 in independent form at this time.

**III. CLAIM REJECTIONS UNDER 35 USC § 102(e)**

Claims 1-4, 6, 10-12, 14-15, 17-21, 23, 24, 26, 28-32, are rejected under 35 USC § 102(e) as being anticipated by United States patent no. 6,363,056 of Beigi et al. (*Beigi*). The applicants respectfully traverse the rejections of claims 1-4, 6, 10-12, 14-15, 17-21, 23, 24, 26, 28-32 on the grounds that Beigi does not disclose every element of Claims 1-4, 6, 10-12, 14-15, 17-21, 23, 24, 26, 28-32.

Beigi discloses a network monitoring system that counts events at an ingress access router. Upon reaching a predetermined count, the router makes a copy of the header of the current packet that arrives at the router for transmission. The router transmits the current packet unchanged. The router creates a probe packet by appending a

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payload to the header copy and modifies the header copy to change the source IP address to that of the router. The payload includes the time of creation of the probe packet and "some other necessary data" (col. 6, lines 22-45). An embodiment of the probe packet also has a UDP header whose protocol field includes a reserved code that identifies the probe packet as such. (col. 7, lines 1-21).

### 1. Claim 1

The applicants traverse the rejection of claim 1 on the grounds that Beigi does not disclose "a packet generator that receives the header copies and forms monitoring data packets therefrom, each of the monitoring data packets additionally representing temporal data relating to the header copies included therein" as recited in Claim 1. The cited passage of Beigi's disclosure at col. 2, lines 50-54, alleged in the official action to disclose this element of Claim 1, describes a 1:1 relationship between a probe packet and a data packet ("generating a probe packet based on contents of a data packet"). The passage of Beigi's disclosure at col. 9, lines 33-39, alleged in the official action to disclose this element of Claim 1, refers to a performance monitor packet generator 805 but the applicants have been unable to find anything in this passage of Beigi's disclosure that describes to the structure of the probe packets.

Beigi's describes his probe packet as having a modified version of a copy of the header of a single packet as its header (col. 6, lines 31-36). The header of Beigi's probe packet differs from that of the current packet in that the source IP address is different (col. 6, lines 34-36). Thus, Beigi's probe packet cannot accurately be said to include a copy of the header of the current packet since its header differs from that of the current packet. Moreover, replacing the original source IP address with that of the ingress router is not a trivial change since it removes from the probe packet information indicating the origin of the original packet. Beigi's monitoring system therefore removes data that would otherwise allow the performance of the network to be better analyzed.

Additionally, Beigi teaches that each probe packet has a modified copy of the header of *a single packet* as its header (col. 6, lines 32-34). As a result, a complete probe

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packet is used to convey a single item of monitoring data. This is substantially less efficient than in the invention claimed in Claim 1, in which "each of the monitoring data packets [has multiple] header copies included therein."

Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose the packet generator recited in Claim 1 that forms monitoring data packets from the header copies, "each of the monitoring data packets additionally representing *temporal data relating to the header copies* [plural] included therein" (emphasis and comment added).

## 2. Claim 3

The applicants respectfully traverse the rejection of claim 3 on the grounds that Beigi does not disclose that "the packet generator inserts into each of the monitoring data packets *one* of the time stamps for *each* of the header copies included therein as part of the monitoring data" as recited in Claim 3 (emphasis added). The cited passage of Beigi's disclosure at col. 7, lines 26-27, alleged to disclose "the packet generator inserts into each of the monitoring data packets one of the time stamps for each of the header copies included therein as part of the monitoring data" states: "The source access router includes the time-stamp of the creation in the probe packet." The applicants therefore respectfully submit that Beigi discloses using a time-stamp provides temporal information relating to the probe packet, i.e., its creation time, and not to data contained in the probe packet. Moreover, the applicants have been unable to find anything in Beigi's disclosure that teaches inserting into the probe packet "one of the time stamps for each of the header copies [plural] included [in each of the monitoring data packets] as part of the monitoring data." Moreover, as noted above with reference to Claim 1, Beigi's probe packet cannot accurately be said to contain header copies. The applicants therefore respectfully submit that Beigi cannot accurately be said to disclose that "the packet generator inserts into each of the monitoring data packets *one* of the time stamps for *each* of the header copies included therein as part of the monitoring data" as recited in Claim 3.

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### 3. Claim 4

The applicants respectfully traverse the rejection of claim 4 on the grounds that Beigi does not disclose "the packet generator forms *each* one of the monitoring data packets from the *header copies* [plural] received during a predetermined interval of time to provide the temporal data" as recited in Claim 4 (emphasis and comments added). The passage of Beigi's disclosure at col. 9, lines 33-39, alleged in the official action to disclose "the packet generator forms each one of the monitoring data packets from the header copies received during a predetermined interval of time to provide the temporal data," refers to a performance monitor packet generator 805 but the applicants have been unable to find anything in this passage of Beigi's disclosure that describes the subject matter of claim 4.

Moreover, as discussed above with reference to Claim 1, Beigi the header of the probe packet is a modified copy of that of the original packet. Consequently, the applicants respectfully submit that Beigi's probe packet contains neither a single header copy nor multiple header copies.

Finally, Beigi teaches that *each* probe packet is formed from the modified header copy of a *single* one of the packets received during a predetermined time interval. The applicants respectfully submit that this is not what is claimed in Claim 4.

The applicants therefore respectfully submit that Beigi cannot accurately be said to disclose "the packet generator forms each one of the monitoring data packets from the *header copies* received during a predetermined interval of time to provide the temporal data" as recited in Claim 4.

### 4. Claim 11

The applicants respectfully traverse the rejection of claim 11 on the grounds that Beigi does not disclose "an analysis engine for analyzing the monitoring data *in the data base* to generate performance data relating to the network router." as recited in Claim 11 (emphasis added). At col. 9, lines 39-43, Beigi states: "Fig. 9 shows packets that are received 901, and analyzed 903. The results of the probe packets analysis go to a statistics

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database 905." Thus, in accordance with Beigi's disclosure, packets are analyzed and the results of the analysis are stored in the statistics database. The applicants have been unable to find anything in the passage of Beigi's disclosure cited in the official action that discloses that any analysis is performed on the contents of the statistics database. The applicants acknowledge that Beigi discloses that a heavy weight process is initiated "when the statistics indicate that a heavy weight process is needed" (col. 9, lines 43-45), but have been unable to find anything in the cited passage of Beigi's disclosure that teaches that this involves *analysis* of the statistics database. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "an analysis engine for analyzing the monitoring data *in the data base* to generate performance data relating to the network router." as recited in Claim 11.

#### 5. Claim 12

The applicants respectfully traverse the rejection of claim 12 on the grounds that Beigi does not disclose that "the monitoring data processor [of the first network router] additionally includes an analysis engine that analyzes the *monitoring data and the additional data* to generate performance data relating to performance of the network" as recited in Claim 12 (emphasis and comments added). The passage of Beigi's disclosure at col. 9, lines 40-49, cited in the official action mentions a packet analyzer 903, but applicants have been unable to find anything in the cited passage that discloses that packet analyzer 903 analyzes anything other than the probe packets received by egress router 111 from ingress router 107. Packet analyzer 903 appears to be limited to analyzing the probe packets it receives from ingress router 107. Nor have the applicants been unable to find anything in the cited passage that discloses that the packet analyzer 903 in the egress router additionally analyzes additional data gathered by another router in the network and transmitted to egress router 111. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "the monitoring data processor [of the first network router] additionally includes an analysis engine that analyzes the *monitoring data and the additional data* to generate performance data relating to

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performance of the network" as recited in Claim 12.

*6. Claim 14*

The applicants respectfully traverse the rejection of claim 14 on the grounds that Beigi does not disclose that "the monitoring data processor is a first monitoring data processor and additionally includes a communications port configured to feed at least one of (a) the data base and (b) performance data generated at least in part from the data base to a second monitoring data processor." as recited in Claim 14.

In the passage of Beigi's disclosure at col. 9, lines 39-48, discussed above with reference to Claim 11, Beigi discloses that a heavy weight process is initiated "when the statistics indicate that a heavy weight process is needed" (col. 9, lines 43-45). Heavy weight performance packets are generated and are fed to a data path 913. The applicants have been unable to find anything in Beigi's disclosure that discloses that statistics data base 905 or other performance data generated at least in response to statistics data base 905 finds its way into the heavy weight performance monitoring packets or is otherwise transmitted via data path 913. Nor does Beigi indicate the destination of data path 913. Thus, it is not clear from Beigi's disclosure that data on data path 913 are transmitted.

The cited passage of Beigi's disclosure at col. 10, lines 9-15, describes a fault monitoring processor. Beigi describes the fault monitoring processor as receiving packets including probe packets. The applicants have been unable to find anything in the cited passage of Beigi's disclosure that teaches that the fault monitoring processor additionally receives a data base generated by another monitoring data process or performance data generated at least in part in response to such data base. The applicants have been unable to find anything in Beigi's disclosure that teaches that data paths 913 and 1113 are interconnected in any way.

Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose that "the monitoring data processor is a first monitoring data processor and additionally includes a communications port configured to feed at least one of (a) the data base and (b) performance data generated at least in part from the data base to a

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second monitoring data processor.” as recited in Claim 14.

#### 7. Claim 15

The applicants respectfully traverse the rejection of claim 15 on the grounds that Beigi does not disclose “[a communications port configured to feed at least one of (a) the data base and (b) performance data generated at least in part from the data base to a second monitoring data processor] is connected to the network.” as recited in Claim 15. The applicants acknowledge that Beigi discloses that the router is connected to ISP Customer Network 1 as stated in the official action. However, the applicants have been unable to find anything in Beigi’s disclosure that teaches that the communication port connected to ISP Customer Network 1 is additionally “configured to feed at least one of (a) the data base and (b) performance data generated at least in part from the data base to a second monitoring data processor” as recited in claim 14 on which Claim 15 depends. The official action does not indicate where this teaching can be found in Beigi’s disclosure. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose “[a communications port configured to feed at least one of (a) the data base and (b) performance data generated at least in part from the data base to a second monitoring data processor] is connected to the network.” as recited in Claim 15.

#### 8. Claims 2-16

The applicants respectfully submit that Beigi does not disclose every element of Claims 2-16 that depend directly or indirectly on Claim 1 for the reasons set forth above with respect to the claims on which they depend.

#### 9. Claim 17

The applicants respectfully traverse the rejection of claim 17 on the grounds that Beigi does not disclose “forming monitoring data packets from the monitoring data, *each* of the monitoring data packets additionally representing temporal data relating to the *header copies* [plural] included therein,” as recited in Claim 17 as now amended

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(emphasis and comments added).

For reasons similar to those set forth above with reference to Claim 1, the applicants respectfully note that Beigi discloses a probe packet having as its header the header of a single current packet modified to change its source IP address. Accordingly, the applicants respectfully submit that Beigi's probe packet therefore cannot accurately be said to include a copy of the header of any packet. Additionally, the applicants respectfully submit that Beigi's probe packet therefore cannot accurately be said to include copies of multiple packet headers.

Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "forming monitoring data packets from the monitoring data, each of the monitoring data packets additionally representing temporal data relating to the header copies included therein;" as recited in Claim 17 as now amended.

*10. Claims 18, 19, 26 and 30*

The applicants respectfully traverse the rejections of claims 18, 19, 26 and 30 on the grounds that the rejections are improper because the official action does not set forth a prima facie case of anticipation with respect to these claims. The official action does not indicate where in the cited reference may be found a disclosure of the subject matter recited in each of claims 18, 19, 26 and 30.

*11. Claim 20*

The applicants respectfully traverse the rejection of claim 20 on the grounds that Beigi does not disclose "building a data base of the monitoring data received in the monitoring data packets; and analyzing the monitoring data in the data base to generate the performance data." as recited in Claim 20. The passage of Beigi's disclosure at col. 2, lines 36-38, alleged in the official action to disclose "building a data base of the monitoring data received in the monitoring data packets" states: "The method is such that bandwidth monitoring, performance monitoring and fault monitoring are all possible." The applicants have been unable to find any reference to building a data base in the cited



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passage. The passage of Beigi's disclosure at col. 7, lines 22-26, alleged in the official action to disclose "analyzing the monitoring data in the data base to generate the performance data" states: "A performance monitoring protocol is used in order to monitor the performance of the network. In an example of a performance monitoring protocol the UDP payload of the probe packet is used to carry information about network delays." The applicants have been unable to find any reference to analyzing a data base in the cited passage. The passage of Beigi's disclosure at col. 6, lines 64-67, alleged in the official action to disclose "analyzing the monitoring data in the data base to generate the performance data" describes the structure of a packet receiving system and actually mentions a statistics data base 505. However, the applicants have been unable to find anything in the cited passage and related drawing (Figure 5) that teaches analysis of statistics data base 505. The applicants have been unable to find any structure shown in Figure 5 for performing such analysis. The arrow leading to statistics data base 505 point only in one direction towards statistics data base 505. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "building a data base of the monitoring data received in the monitoring data packets; and analyzing the monitoring data in the data base to generate the performance data." as recited in Claim 20.

#### *12. Claim 21*

The applicants respectfully traverse the rejection of claim 21 on the grounds that Beigi does not disclose "additionally comprising transmitting at least one of (a) the data base and (b) performance data derived at least in part from the data base to at least one other node of the network." as recited in Claim 21. The cited passage of Beigi's disclosure at col. 10, lines 9-15, describes a fault monitoring processor. Beigi describes the fault monitoring processor as receiving packets including probe packets. A packet analyzer 1103 sends probe packet information to a statistics data base 1105. A heavy weight fault detection process, in which fault detection packets are formed and transmitted, is initiated when the data base results indicate this is needed. The applicants

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have been unable to find anything in the cited passage of Beigi's disclosure that indicates that the fault detection packets are transmitted. No destination for data path 1113 is disclosed. Accordingly, the applicants respectfully submit that the fault detection packets cannot accurately be described as "at least one of (a) the data base and (b) performance data derived at least in part from the data base." Additionally, the applicants have been unable to find anything else in the cited passage of Beigi's disclosure that teaches that the data base or "performance data derived at least in part from the data base" is transmitted. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "additionally comprising transmitting at least one of (a) the data base and (b) performance data derived at least in part from the data base to at least one other node of the network" as recited in Claim 21.

### 13. Claim 23

The applicants respectfully traverse the rejection of claim 23 on the grounds that Beigi does not disclose "in generating the performance data, the monitoring data are analyzed to generate performance data relating to performance of the node" as recited in Claim 23. The passage of Beigi's disclosure at col. 7, lines 22-26, alleged in the official action to disclose "in generating the performance data, the monitoring data are analyzed to generate performance data relating to performance of the node" states: "A performance monitoring protocol is used in order to monitor the performance of the network. In an example of a performance monitoring protocol the UDP payload of the probe packet is used to carry information about network delays." The applicants have been unable to find any reference in the cited passage to analyzing monitoring data "to generate performance data relating to performance of the node". The passage merely appears to teach to use of UDP payload being used to carry delay information. The passage of Beigi's disclosure at col. 6, lines 64-67, alleged in the official action also to disclose "in generating the performance data, the monitoring data are analyzed to generate performance data relating to performance of the node" describes the structure of a packet receiving system. However, the applicants have been unable to find anything in the cited passage and

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related drawing (Figure 5) that teaches that statistics data base 505 is analyzed "to generate performance data relating to performance of the node." The applicants have been unable to find anything in the description of Figure 5 that indicates that packet analyzer 503 or any other element shown therein performs such analysis. Again, the arrow connecting packet analyzer 503 and statistics data base 505 points only to the statistics data base. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose "in generating the performance data, the monitoring data are analyzed to generate performance data relating to performance of the node" as recited in Claim 23.

#### *14. Claim 24*

The applicants respectfully traverse the rejection of claim 24 on the grounds that Beigi does not disclose that "generating the performance data includes: receiving additional data relating to at least one additional node in the network, the additional data including at least one of monitoring data and performance data; and analyzing the monitoring data and the additional data to generate the performance data, the performance data generated relating to performance of the network." as recited in Claim 24. The passage of Beigi's disclosure at col. 2, lines 36-38, alleged in the official action to disclose "receiving additional data relating to at least one additional node in the network, the additional data including at least one of monitoring data and performance data;" states: "The method is such that bandwidth monitoring, performance monitoring and fault monitoring are all possible." The applicants have been unable to find any reference to receiving additional data in the cited passage. The passage of Beigi's disclosure at col. 7, lines 22-26, alleged in the official action to disclose "analyzing the monitoring data and the additional data to generate the performance data, the performance data generated relating to performance of the network." states: "A performance monitoring protocol is used in order to monitor the performance of the network. In an example of a performance monitoring protocol the UDP payload of the probe packet is used to carry information about network delays." The applicants have been unable to find any reference in the cited passage to analyzing monitoring data and the received additional data "to generate the

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performance data, the performance data generated relating to performance of the network". The applicants respectfully acknowledge that the cited passage mentions monitoring performance of the network, but respectfully submit that the cited passage does not disclose the specific way (i.e., by analyzing the monitoring data and the additional data) recited in Claim 24 in which the performance data relating to the performance of the network is generated. The passage of Beigi's disclosure at col. 6, lines 64-67, also alleged in the official action also to disclose "analyzing the monitoring data and the additional data to generate the performance data, the performance data generated relating to performance of the network." describes the structure of a packet receiving system. However, as noted above, the applicants have been unable to find anything in the cited passage and Figure 5 that indicates that packet analyzer 503 or any other element shown therein analyzes monitoring data and received additional data. Accordingly, the applicants respectfully submit that Beigi cannot accurately be said to disclose that "generating the performance data includes: receiving additional data relating to at least one additional node in the network, the additional data including at least one of monitoring data and performance data; and analyzing the monitoring data and the additional data to generate the performance data, the performance data generated relating to performance of the network." as recited in Claim 24.

#### *15. Claim 32*

The applicants respectfully traverse the rejection of claim 32 on the grounds that the rejection is improper because the official action does not set forth a proper *prima facie* case of anticipation with respect to this claim. The official action does not indicate where in the cited reference may be found a disclosure of the subject matter recited in claim 32. Moreover, Beigi teaches that fewer than all the packet headers are copied.

#### *16. Claims 18-32*

The applicants respectfully submit that Beigi does not disclose every element of Claims 18-32 that directly or independently depend on Claim 17 for the reasons set forth

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above with respect to the claims on which they depend.

The applicants respectfully submit that, since Beigi does not disclose every element of Claims 1-32 for the reasons set forth above, claims 1-32 are patentable. The applicants therefore respectfully request that the rejections of Claims 1-32 be withdrawn.

The applicants respectfully request reconsideration of the rejected claims. The applicants believe that the application as now amended is in condition for allowance, and respectfully request such favorable action. If any matters remain outstanding in the application, the Examiner is respectfully invited to telephone the applicants' attorney at (650) 485-3015 so that these matters may be resolved.

Respectfully submitted,

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